<u>What is claimed is</u>:

1. A BSG comprising:

(a) a polynucleotide of SEQ ID NO:1, 2, 3, 4, or 5, or a variant thereof;

(b) a protein expressed by a polynucleotide of SEQ ID NO:1, 2, 3, 4, or 5, or a variant thereof; or

(c) a polynucleotide which is capable of hybridizing under stringent conditions to the antisense sequence of SEQ ID NO: 1, 2, 3, 4, or 5.

2. The BSG of claim 1 wherein the protein comprises SEQ ID NO:6.

3. A method for diagnosing the presence of breast cancer in a patient comprising:

(a) determining levels of a BSG of claim 1 in cells, tissues or bodily fluids in a patient; and

(b) comparing the determined levels of BSG with levels of BSG in cells, tissues or bodily fluids from a normal human control, wherein a change in determined levels of BSG in said patient versus normal human control is associated with the presence of breast cancer.

4. A method of diagnosing metastases of breast cancer in a patient comprising:

(a) identifying a patient having breast cancer that is not known to have metastasized;

(b) determining levels of a BSG of claim 1 in a sample of cells, tissues, or bodily fluid from said patient; and

(c) comparing the determined BSG levels with levels of BSG in cells, tissue, or bodily fluid of a normal human control, wherein an increase in determined BSG levels in the patient versus the normal human control is associated with a cancer which has metastasized.

5. A method of staging breast cancer in a patient having breast cancer comprising:

(a) identifying a patient having breast cancer;

(b) determining levels of a BSG of claim 1 in a sample of cells, tissue, or bodily fluid from said patient; and

(c) comparing determined BSG levels with levels of BSG in cells, tissues, or bodily fluid of a normal human control, wherein an increase in determined BSG levels in said patient versus the normal human control is associated with a cancer which is progressing and a decrease in the determined BSG levels is associated with a cancer which is regressing or in remission.

6. A method of monitoring breast cancer in a patient for the onset of metastasis comprising:

(a) identifying a patient having breast cancer that is not known to have metastasized;

(b) periodically determining levels of a BSG of claim 1 in samples of cells, tissues, or bodily fluid from said patient; and

(c) comparing the periodically determined BSG levels with levels of BSG in cells, tissues, or bodily fluid of a normal human control, wherein an increase in any one of the periodically determined BSG levels in the patient versus the normal human control is associated with a cancer which has metastasized.

7. A method of monitoring a change in stage of breast cancer in a patient comprising:

(a) identifying a patient having breast cancer;

(b) periodically determining levels of a BSG of claim 1 in cells, tissues, or bodily fluid from said patient; and

(c) comparing the periodically determined BSG levels with levels of BSG in cells, tissues, or bodily fluid of a normal human control, wherein an increase in any one of the

periodically determined BSG levels in the patient versus the normal human control is associated with a cancer which is progressing in stage and a decrease is associated with a cancer which is regressing in stage or in remission.

8. A method of identifying potential therapeutic agents for use in imaging and treating breast cancer comprising screening compounds for an ability to bind to or decrease expression of a BSG of claim 1 relative to the BSG in the absence of the compound wherein the ability of the compound to bind to the BSG or decrease expression of the BSG is indicative of the compound being useful in imaging and treating breast cancer.

9. An antibody which specifically binds a polypeptide encoded by a BSG of claim 1.

10. A method of imaging breast cancer in a patient comprising administering to the patient an antibody of claim 9.

11. The method of claim 10 wherein said antibody is labeled with paramagnetic ions or a radioisotope.

12. A method of treating breast cancer in a patient comprising administering to the patient a compound which downregulates expression or activity of a BSG of claim 1.

13. A method of inducing an immune response against a target cell expressing a BSG of claim 1 comprising delivering to a human patient an immunogenically stimulatory amount of a BSG polypeptide so that an immune response is mounted against the target cell.

14. The method of claim 13 wherein the BSG polypeptide is encoded by a polynucleotide of SEQ ID NO:1, 2, 3, 4, or 5.

15. A vaccine for treating breast cancer comprising a BSG of claim 1.